

2022 BirdSO Mini Division C Ornithology Exam Answer Key



Welcome to BirdSO Ornithology C! This test will be at national level rules, and there will be a couple math involved questions. Because of this, participants are each allowed a non-programmable calculator. Don't worry if it's not scientific, the math isn't too hard (this is Orni after all).

You will have 50 minutes to answer 122 questions that are worth a total of 206 points. The questions are divided into 15 stations of roughly 8 questions each. We tried to focus less on pure identification and more on the science behind all aspects of Ornithology.

We won't be able to answer questions during the testing period, but if you have any questions, comments or concerns we have included a feedback form at the end of the test.

Good luck to all of you!

Station 1



Questions 1-9 will refer to this image.

1. Give the common and scientific name of this bird. (2)
 - a. Eastern Kingbird (1), *Tyrannus tyrannus* (1)
2. Does this bird winter in the United States? If so, what states? (1)
 - a. No (1)
3. How does this bird's summer diet differ from its winter one? (2)
 - a. In summer: flying insects (1) In winter: fruit (1)
4. Are all of this bird's feathers black, gray and white? Explain. (2)
 - a. No (1), they have a hidden patch of reddish orange on the crown (1)
5. Give two materials that make up the outer layer of this bird's nest. (2)
 - a. Small twigs, coarse roots, dried weed stems, bark (1 each, max of 2)
6. This bird was frequently shot because it was believed to kill what important insect? (1)
 - a. Honeybees (1)
7. What family of birds are important nest predators of these birds? (1)
 - a. Corvids or *Corvidae* (1)

8. Research shows that the migration of these birds is dictated by endogenous factors. What does this term mean? Give an example of one. (2)
 - a. Internal factors (1) Vernal nocturnal migratory restlessness (zugunruhe) or other acceptable answer (1)
9. [TB 5] Along contested territorial borders, what display do these birds perform? Describe it. (3)
 - a. Crouch Display (1). One bird perches within about 1 m of another bird, holds body horizontally, points head at opponent (but with bill pointed downward) (1), and spreads tail to display white terminal band. Flicks tail up and down frequently and ruffles feathers on head and dorsum (1). This display is generally given only in early breeding season during territory establishment. If a contestant does not retreat, an aerial fight often ensues.

Station 2



Questions 10-17 will refer to this image.

10. Give the Common and Scientific name of this (cute) bird. (2)
 - a. Laysan Albatross (1), *Phoebastria immutabilis* (1)
11. In what type of habitat do these birds nest? Name the two islands with the highest populations of this species. (3)
 - a. Open grassy or sandy expanses of islands (1), Midway Atoll (1), Laysan Island (1)
12. Name a long-term conservational threat that affects this species. (1)
 - a. Relatively open-ended: climate change, overfishing, pollution, etc. (1)

13. Why is a lack of wind unfavorable for this species? If a gust of wind is travelling northwest, in which direction will this species run in order to take off? (2)
 - a. They rely heavily on wind when flying, and need it to take off. (1) Southeast (1)
 14. This species has several behaviors to avoid overheating. Name two. (2)
 - a. Countercurrent heat exchange in the brain, balances on heels and raises feet to cause cooling of feet via convection, move feet to lie in shade of the body, raise scapular feathers to promote convective cooling, etc. (1 each, max of 2)
 15. What behavior do these birds perform in between copulation and laying eggs? Describe it. (2)
 - a. Pre-laying exodus: The pair goes out to sea, returning after 8 days to lay eggs (2)
 16. Name a native predator to this species. (1)
 - a. Tiger sharks (1) are the only native predator.
 17. This species, as well as related species, are often referred to as “tubenoses.” What anatomical feature makes a bird a “tubenose?” (1)
 - a. Have a pair of bony tubes in the bill that excrete salt, allowing them to drink seawater without becoming dehydrated (1)
-

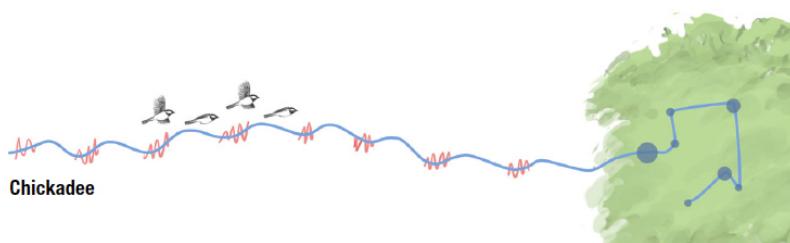
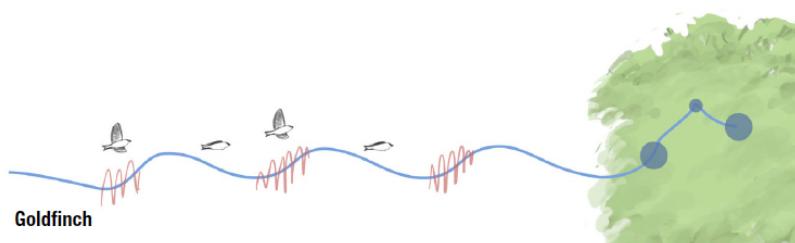
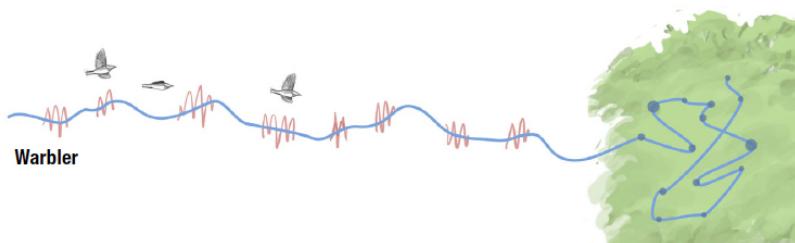
Station 3



Questions 18-25 will refer to this image.

18. Give the common and scientific name of this bird. (2)
 - a. Evening Grosbeak (1), *Coccothraustes vespertinus* (1)
19. What vocal characteristic makes this bird unique among other members of its family and order? (1)
 - a. It lacks a complex song, but does have simple notes and calls (1)
20. Define the term *Irruptive*. Are these birds known to be irruptive? (2)
 - a. A bird with an irregular or highly variable migration, often based on food availability (1), Yes (1)

21. The box elder is a plant with abundant seeds that last throughout the winter. How has the spread of the box elder as an ornamental plant affected this bird? (1)
- Allowed the bird's range to spread eastward (1)
22. Ignoring the possibility of juvenile, is the bird in the image male or female? How do you know? (2)
- Female (1), head and upperparts mostly grayish brown, with weak black malar stripe and yellowish wash on sides of neck. Upper tail-coverts black with white spotting. Wings and tail black with white and gray wing patch on inner coverts and tertials, smaller white panel across base of inner primaries, outer rectrices white-tipped. Throat and underparts pale grayish brown, with white undertail coverts (1 for adequate explanation)
23. Does this bird breed in more coniferous or deciduous woodlands? Relative to other members of its genus, is it more or less tied to these woodlands? (2)
- Coniferous (1), Less closely tied (1)



24. Here are some flight patterns for certain songbirds. Which bird has a most similar pattern to the bird in question? What is that flight type called? (2)
- Goldfinch (1), Undulating (1)
25. Once this bird flies to a feeding location, describe 2 microhabitats within the forest in which it would feed in? (2)
- Outer and top branches of trees, on the ground turning over leaves/stones, feeding stations, catching bugs in air (1 each, max of 2)
-

Station 4



Questions 26 - 33 will refer to this image.

26. Give the Common and Scientific name of this bird. (2)
 - a. Common Murre (1), *Uria aalge* (1)
27. [TB 6] These birds roost in colonies as seen above. Name two adaptations that these birds' eggs have to be better fit for survival in these colonies and explain how they help. (4)
 - a. The eggs are ovate/elliptical, which causes them to spin when rolled and not roll off cliffs. The eggs have much variation in their color and spottage, allowing them to be easily recognized. Upright incubation posture to take up less space and nest on thin ledges. (2 for naming adaptations, 2 for explaining how they help, max of 4)
28. Describe this bird's bridle plumage. Do the birds in this photo exhibit bridle plumage? (2)
 - a. The bridle plumage is a thin white ring around the eye with a whit line extended to the back of the head (1), No (1)
29. Name two fish species that this bird would feed on in Pacific colonies. (2)
 - a. Rockfish, pollock, arctic cod, saffron cod, tomcod, surfperch, sand lance, sculpin, hake, greenling, capelin, herring, smelt, anchovy, and sardine (1 each, max of 2)
30. What is kleptoparasitism? Describe the circumstances in which this bird would engage in this behavior. (2)
 - a. The act of stealing prey/food from a conspecific (1), It occurs in times of extreme food shortages (1)

31. Plastics in the ocean are a problem for many seabirds and other marine species. However, studies have shown that relatively low levels of plastic are found in specimens' gizzards when compared to other species in the same habitats. Describe why this is. (1)
- Murres may sometimes scoop plastic out of the water from the surface, but they don't scavenge for food, so the levels of plastic ingested are relatively low compared to birds like gulls. (1)
32. [TB 2] While plastics may not be a big harm to this bird, oil pollution is. Describe the main way oil leads to the death of seabirds like these. Hint: It's not ingestion. (2)
- Oil fouls the feathers (1) of these birds and removes their insulation properties, leading many to die of hypothermia and malnutrition (1)
33. T/F: Unlike other species in it's family, males incubate the egg with almost no help from the female. (1)
- False (1)

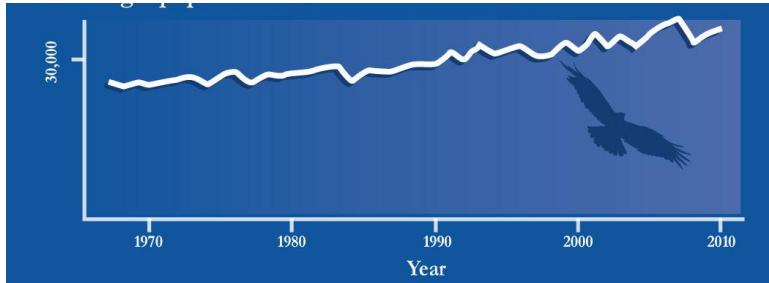
Station 5



Questions 34-40 will refer to this image.

- Give the Common and Scientific name of this bird. (2)
 - Golden Eagle (1), *Aquila chrysaetos* (1)
35. Select all that are "V"-shaped for this species. (1)
- Migration flocks
 - Wings while hunting for prey (1)
 - Egg arrangements in the nest
 - Distribution across North America

36. [TB 7] How many countries have this bird as their national animal? Name 2. (3)
- 5 (1), Mexico, Albania, Germany, Austria, Kazakhstan (1 point each, max 2)
37. During courtship, these birds are known to perform “sky-dancing.” Describe this behavior. (2)
- Rapid series of up to 20 steep dives and upward swoops, beating wings 3-4 times at the peak of each rise (2 for adequately describing the behavior)



38. Pictured is a graph for the population size for this bird. Which event, occurring in 1962, likely accounts for the majority of the upward trend in population? Are these birds r-selected or k-selected? (2)
- The US Bald and Golden Eagle Protection Act was passed, which outlawed harming bald and golden eagles, their eggs, and their nests (1), k-selected (1)
39. Describe the appearance of an egg laid by this species. (1)
- White to cream or pale pink, typically has small brown blotches (1)
40. Which of the following choices best describe the habitat of this species in the Northern Hemisphere? (1)
- Old-growth forest
 - Riparian environment
 - Urban setting
 - Grasslands (1)
-

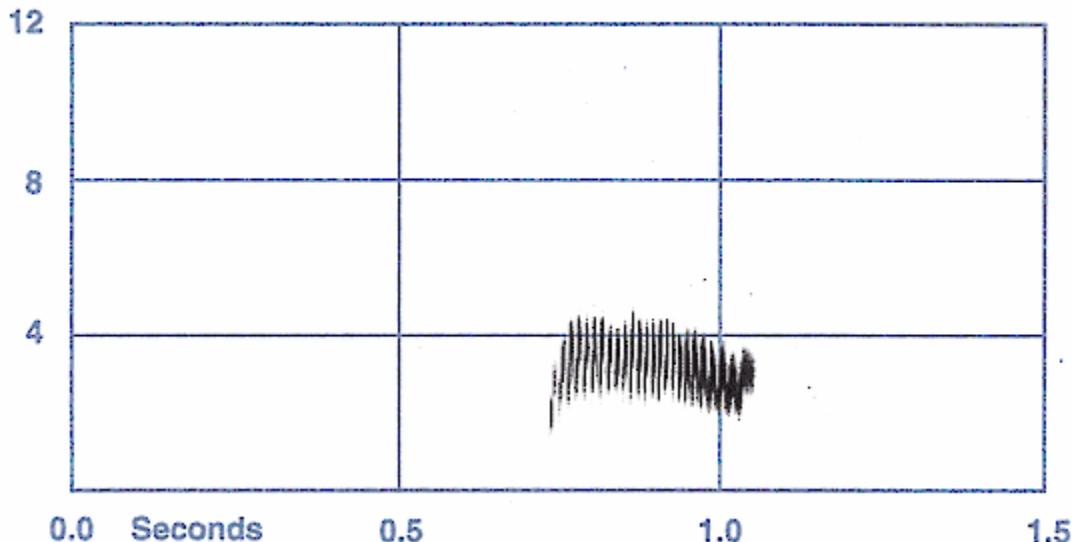
Station 6



Questions 41-48 will refer to this image.

41. Give the Common and Scientific name of this bird. (2)
 - a. Common Nighthawk (1), *Chordeiles minor* (1)
42. Within urban areas, how has human development changed where this bird nests? (1)
 - a. Prefer to nest on flat gravel roofs in urban areas, as opposed to natural areas (1)
43. Within urban areas, how has human development changed where this bird likes to feed? (1)
 - a. The introduction of artificial lights attracts the insects that these birds eat (1)

kHz



44. This is a sonogram of this bird's *peent* call. Would the male or female make this call? During what behavior? (2)
a. Male (1), during the booming display (1)
45. Along with cats and many other vertebrates, this bird has a structure in its eye called a tapetum lucidum. Describe how this anatomical feature assists these birds. (1)
a. Reflects visible light to the retina. Enhances night vision (1)
46. These birds are described as being crepuscular. What does this word mean? (1)
a. Active during twilight/dusk (1)
47. The palest subspecies of this bird is found in what part of North America during breeding season? Answer with general region or specific states/provinces. (1)
a. N. Great Plains, Saskatchewan, Manitoba, MT, WY, ND, SD, NE, IO, MN. etc. (1)
48. T/F: These birds are territorial during breeding season. (1)
a. True (1)

Station 7



Questions 49-56 will refer to this image.

49. Three species on the list appear in this photo. The questions will refer to the species with SMALLEST North American distribution of the three. Give the common and scientific names of that bird. (2)
a. Yellow-headed Blackbird (1), *Xanthocephalus xanthocephalus* (1)
50. What does this bird's genus name mean in Greek? (1)
a. Xantho meaning yellow (0.5), Cephalus meaning head (0.5)

51. What word describes this bird's mating system? Hint: it is more specific than polygamy. Describe what this word means. (2)
- Polygyny (1) A male having more than one female mate (1)
52. Name the two ecosystems that combine to form this bird's most common breeding habitats. (2)
- Prairie (1), Wetlands (1)
53. Why is this bird often targeted and shot/trapped by farmers? (1)
- They eat ripening crops (1)
54. Name a bird on the list that would hunt adults of the bird. To fend off predators, these birds often mob. What is mobbing? (2)
- Great Horned Owl, Barn Owl, or Northern Harrier (1), repeatedly attacking or harassing a predator to protect young (1)



55. [TB 8] The two birds pictured here come into conflict with the bird you identified in breeding grounds. Give the common name of the bird on the left. Why does this bird conflict with the bird identified in question 49? Which one generally dominates the other? (3)
- Red-winged Blackbird (1), nest in the same areas (1), the Yellow-headed Blackbird is larger and dominates the Red-headed Blackbirds (1)
56. For the bird on the right, give its common name. Why does this bird come into conflict with the bird identified in question 49? (2)
- Marsh Wren (1), they destroy eggs of larger birds (1)
-

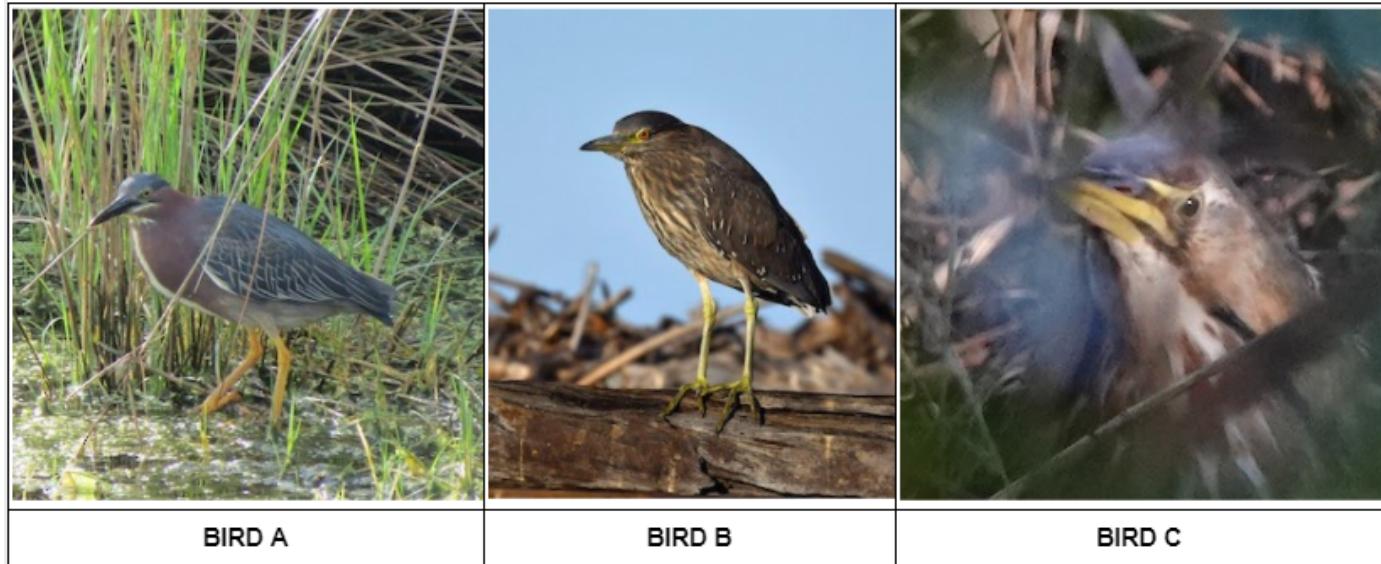
Station 8



Questions 57-64 will refer to these images.

57. Give the Common and Scientific name of this bird. (2)
 - a. Wild Turkey (1), *Meleagris gallopavo* (1)
58. [TB 1] Is it likely that the bird pictured produced the scat sample shown? Why or why not? (2)
 - a. No (1), pictured is a female turkey, which produces coil-shaped scat (1). Male turkeys produce the "J"-shaped scat seen in this station
59. Describe the anatomical features of the bird that produced the scat sample which caused it to form a "J" shape. (1)
 - a. Female turkey cloacas typically have more room to allow eggs to pass through it. This allows the scat to coil within the cloaca and come out coiled. Male turkeys have less spacious cloacas, so their scat has no room to coil, and is expelled in a condensed, "J" shape. (1 for mentioning a difference in cloaca size between genders)
60. Does this bird exhibit sexual dimorphism? (1)
 - a. Yes (1)
 - b. No
61. Give the origin of this bird's scientific name. (2)
 - a. Genus comes from a Greek Myth (1), species comes from Latin *gallus* meaning rooster and *pavo* meaning peacock (1)
62. [TB 9] Name two food items from this bird's winter diet, and name the anatomical feature the food will be stored prior to digestion. (3)
 - a. Acorns, seeds, berries, hemlock buds, evergreen ferns, mosses, burdock (1 each, max of 2). Crop (1)
63. Who are the eggs of this species incubated by? (1)
 - a. Male only
 - b. Female only (1)
 - c. Male and female
64. T/F: These birds typically follow polygynous mating behaviors. (1)
 - a. True (1)

Station 9

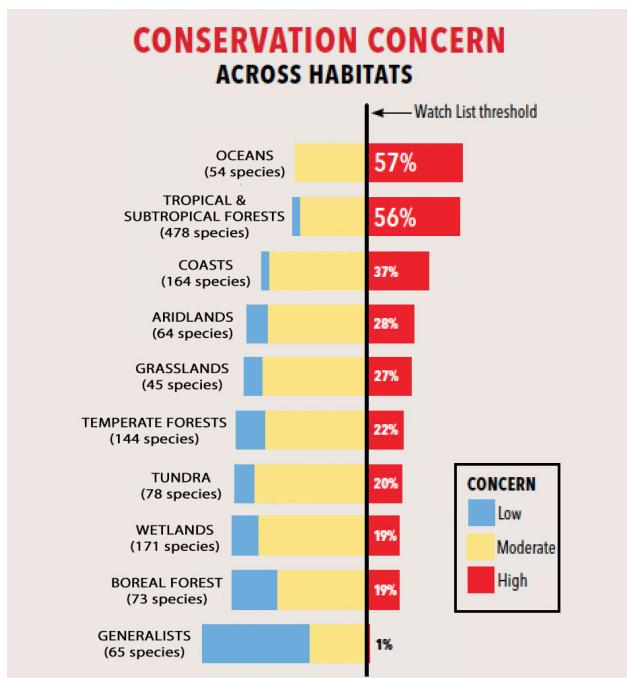


Questions 65-74 will refer to these images.

65. Give the Common name of Bird A. (1)
 - a. Green Heron (1)
66. Give the Common name of Bird B. (1)
 - a. Black-crowned Night-heron (1)
67. Give the Common name of Bird C. (1)
 - a. American Bittern (1)
68. Identify which bird, if any, is in a different order than the other two birds. (1)
 - a. Bird A
 - b. Bird B
 - c. Bird C
 - d. They are all in the same order (1)
69. You hear a thumping, gulping call whilst birdwatching over a marsh. Which of these birds is the likely culprit? What is the common mnemonic used to describe this gulping call? (2)
 - a. Bird C or American Bittern (1), pump-er-lunk (1)
70. Select all birds that are chiefly found in marshes. (1)
 - a. Bird A (0.33)
 - b. Bird B (0.33)
 - c. Bird C (0.33)
 - d. None of the above
71. Select all birds that nest colonially. (1)
 - a. Bird A (Give full credit if choice A is selected in addition to choice B)
 - b. Bird B (1)
 - c. Bird C
 - d. None of the above

72. Which of these birds is typically the smallest and most lightweight? (1)
- Bird A (1)
 - Bird B
 - Bird C
73. Select all birds whose eggs could be described as greenish-blue. (1)
- Bird A (0.5)
 - Bird B (0.5)
 - Bird C
 - None of the above
74. Which term most accurately describes the young of all three birds? (1)
- Altricial (1)
 - Precocial
-

Station 10

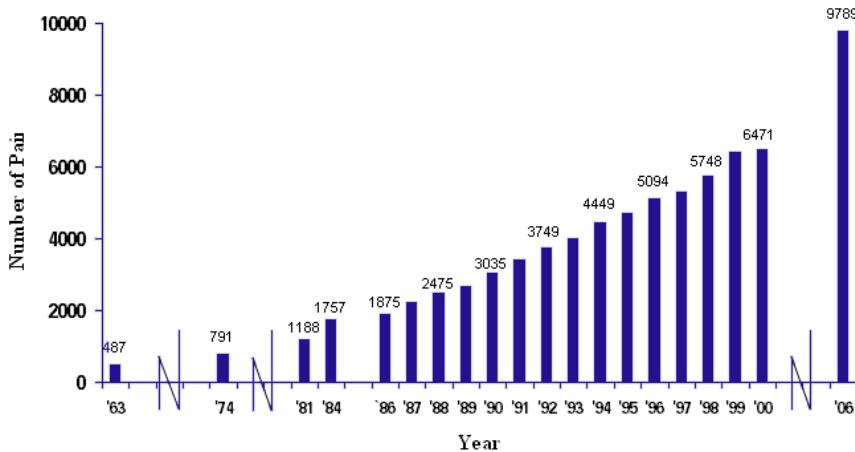


Questions 75-82 are about avian conservation.

Questions 75-77 will refer to this image.

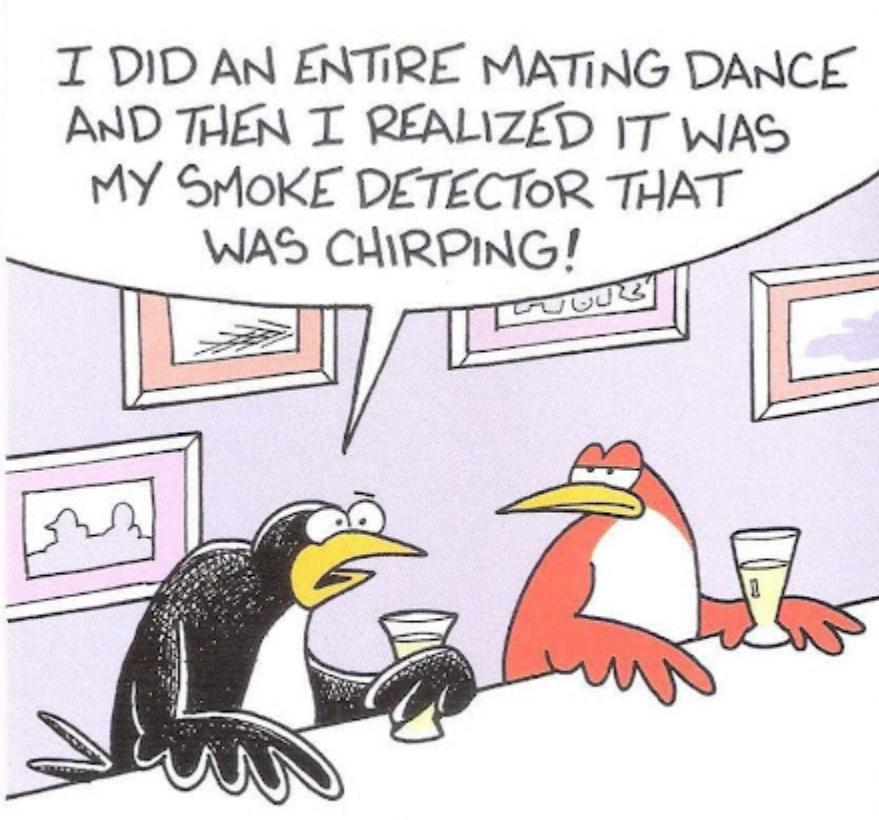
75. This data comes from the 2016 State of the Birds report, which analyzed the vulnerability of all birds across the U.S. and Canada. Using the data, which habitat has the highest percentage of its species with “high concern”? Name two human actions that might threaten birds in these habitats. (3)
- Oceans (1), pollution, overfishing, bycatching, noise pollution, or other suitable answer (1 each, max of 2)

76. Which habitat has the highest number of species with “high concern”? Name two human actions that might threaten birds in these habitats. (3)
- Tropical/subtropical forests (1), logging, pollution, fragmentation, over exploitation, invasive species, climate change, or other suitable answer (1 each, max of 2)
77. Which group is the least threatened? Why do you think this is? (2)
- Generalists (1), they are able to adapt to many different habitats, and can thus handle change much more easily than birds in specific habitats (1)



78. The graph above depicts the number of breeding pairs of Bald Eagles each year. What pesticide was the biggest threat to this bird? (1)
- DDT (1)
79. Describe the path that compound took to get from agricultural areas to the body of a Bald Eagle. (2)
- DDT ran off into streams and waterways, where it entered aquatic ecosystems (1) and eventually reached fish which were then consumed by Bald Eagles (1)
80. How did the pesticide in question 78 negatively affect Bald Eagles? (1)
- It thins the eggshells, making them crushable (1)
81. Which of these had the largest impact on restoring Bald Eagle populations? (1)
- Captive breeding programs
 - Government regulations (1)
 - Reforestation
 - Protection of the nest sites
82. The Bald Eagle is one of the most famous success stories in terms of Avian Conservation. What raptor on the list is currently critically endangered? Why is this bird recovering much slower? (2)
- California Condor (1), slow reproduction (1), they lay 1 egg per year max
-

Station 11



Questions 83-90 are about avian reproduction.

83. Which of the following is the most common mating system of the class Aves? (1)
- a. Monogamy (1)
 - b. Polygyny
 - c. Polyandry
 - d. Promiscuity
 - e. Asexual Reproduction
84. In which of the above mating systems would you find a lek? Name a bird that forms leks. (2)
- a. Polygyny/B (1), Wild Turkey or other suitable answer (1)



85. [TB 10] To what species does the brown egg belong, how does the practice of laying eggs in other birds' nests benefit this species, and what is this practice called?
a. Brown-headed Cowbird (1), devote less resources to caring for their offspring or other acceptable answer (1), brood parasitism (1)
86. Through which process are most species of birds fertilized? (1)
a. "Cloacal kiss"/cloacal contact (1)
87. [TB 3] A female black-necked stilt is born with a deformation in its right ovary. How will this affect this individual's reproduction capabilities in the future? (1)
a. No effect (1). The majority of bird species only develop the left ovary to be functional, including the Black-necked Stilt
88. T/F: The sex of the offspring depends on the chromosome in the female's egg. (1)
a. True (1)
89. What are the two main types of development in newly-hatched birds? Which mode of development would be most fitting for a fictional species of bird that lives in the desert, where resources are a scarcity? (3)
a. Precocial (1) and Altricial (1), Altricial (1) because it takes less resources to lay altricial eggs. The majority of birds that chiefly reside in the desert are altricial or semi-altricial.
90. Name two effects of elevated levels of Testosterone in a bird's bloodstream. (2)
a. Decreased fat stores, increased mortality, increased sexual behavior, aggressive behavior, muscle hypertrophy, immune system suppressed, spermatogenesis, or other suitable answer (1 each, max of 2)

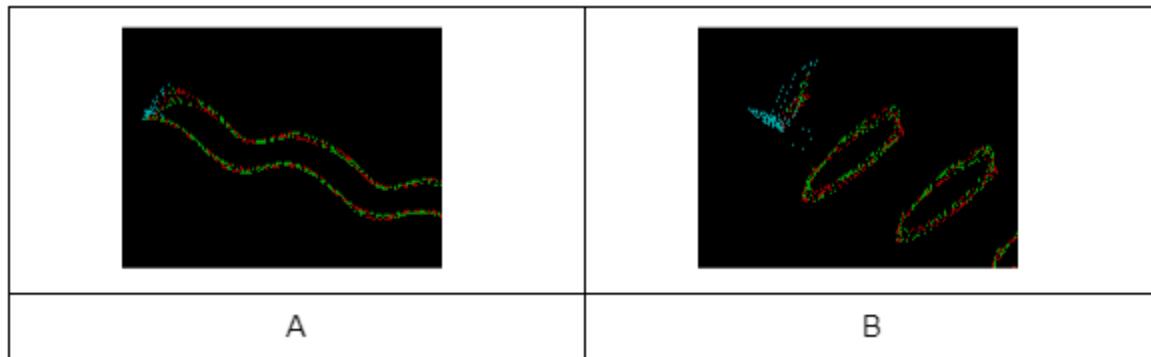
Station 12

Birds Fly 🦜

Questions 91-98 are about flight.

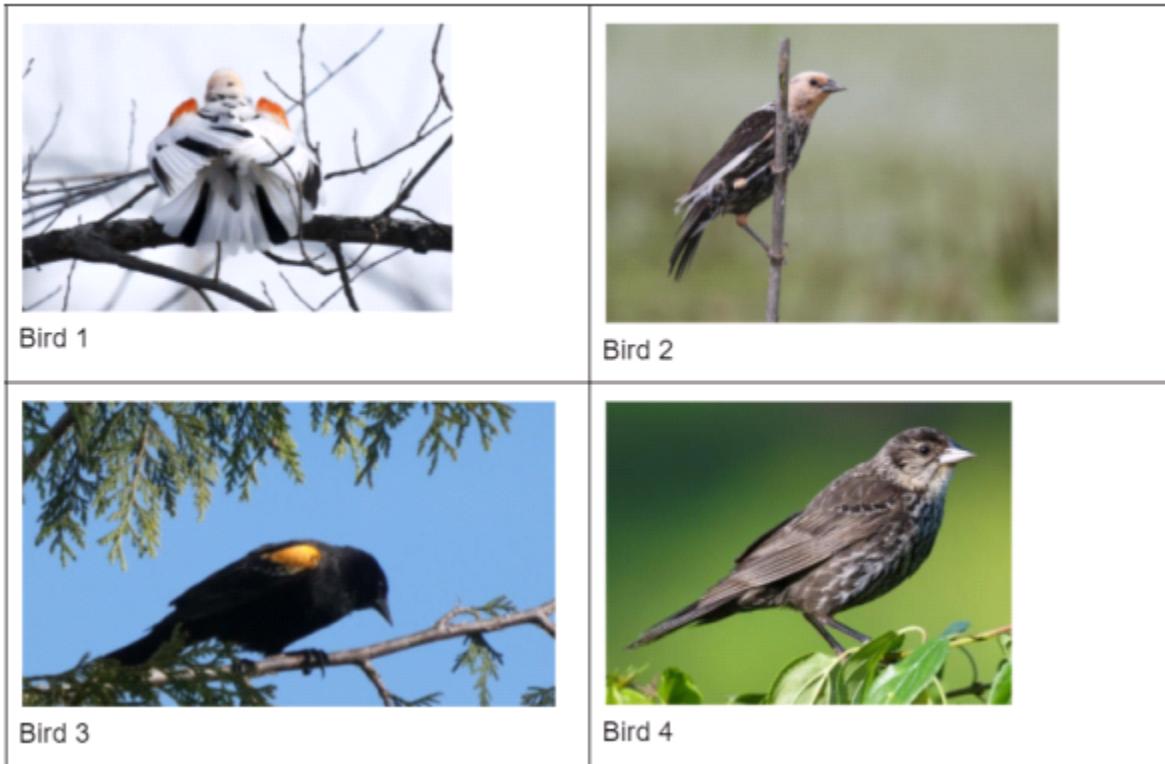
91. A Wandering Albatross specimen has a wingspan of 338cm and an average wing width of 15.5cm. It weighs 9031 grams. Calculate the aspect ratio of the specimen. (2)
a. 21.8 (1), no units (1). Explanation: Aspect ratio = wingspan x wingspan / wing area.
$$338\text{cm} \times 338\text{cm} / (338\text{cm} \times 15.5\text{cm}) = 21.8$$

92. A Wandering Albatross specimen has a wingspan of 338cm and an average wing width of 15.5cm. It weighs 9031 grams. Calculate the wing loading of the specimen with proper units. (2)
- 1.72 (1) g/cm² (1) or any equivalent value. Explanation: Wing loading = body mass / wing area. $9031\text{g} / (338\text{cm} \times 15.5\text{cm}) = 1.72 \text{ g/cm}^2$ or 17.2 kg/m^2
93. Relative to other birds, which statement best classifies these values? (1)
- High aspect ratio, high wing loading
 - High aspect ratio, low wing loading (1)
 - Low aspect ratio, high wing loading
 - Low aspect ratio, low wing loading
94. [TB 4] The pressure of the area above the wing is 1009mb, and the pressure below the wing is 1014mb. Knowing this, is this wing experiencing lift? Explain why, in terms of air speed and Bernoulli's principle. (4)
- Yes (1). Since there is a lower pressure there, air is traveling faster above the wing due to Bernoulli's Principle. (1) The slower air below the wing has more stray air molecules that apply pressure against the wing than the faster air above, causing the wing to experience lift due to the difference in pressure exerted on the wing from above and below. (2 points for mentioning difference in pressure causes lift)
95. The angle from the relative wind to the chord line of the wing is known as the angle of ___. (1)
- Attack (1)



96. Name the two flight gaits shown above. (2)
- A continuous-vortex gait (1), B vortex-ring gait (1)
97. Which flight gait generally produces faster speeds? (1)
- Flight gait A (1)
 - Flight gait B
98. Describe two adaptations found on birds that minimize drag while in flight. (2)
- Aerodynamic body, wing slots, spreading vs furling tail, etc. (1 each, max of 2)
-

Station 13



Questions 99-106 are about pigmentation disorders, and will refer to this image.

99. These birds are all of the same species. Give the scientific name. (1)
 - a. *Agelaius phoeniceus* (1)
100. Which of these birds is a "normal" bird (has a usual plumage)? How can you tell? (2)
 - a. Bird 4 (1), it's one of the normal variations of the female plumage (1)
101. Define Albinism. Which of these birds is/are albinistic? (2)
 - a. Albinism is the complete loss of melanin (1), none (1)
102. Define Xanthochromism. Which of these birds is/are xanthochromic? (2)
 - a. Xanthochromism is an unusual yellow pigmentation, often red to yellow (1), Bird 3 (1)
103. Define Leucism. Which of these birds is/are Leucistic? (2)
 - a. Leucism is the partial loss of pigments (1), including melanin. Bird 1 (0.5) and 2 (0.5)
104. What is the most likely cause of Bird A's condition? What other possibility can cause light patches of feathers as shown? (2)
 - a. A genetic mutation (1), "Leucism" or depigmentation can also be caused by injury (1)
105. [TB 11] What are the two probable causes for Bird C's condition? When I snapped this photo, there were no other birds in the area with this condition; which possibility is more likely because of that? (3)

- a. It can be caused by a genetic mutation (1), or a dietary deficiency preventing it from eating carotenoids (1), which allow for red coloration. The genetic mutation is more likely (1), since a dietary deficiency would likely affect other birds in the same colony
106. Individuals with Bird C's condition are called by what term? Theorize whether Bird A or Bird C will have greater fitness. Explain. (3)
- a. Lutinos (1), Bird 3 (1) is much closer to the normal male plumage (1), meaning it will be more likely to find a suitable mate and avoid predation than Bird 1

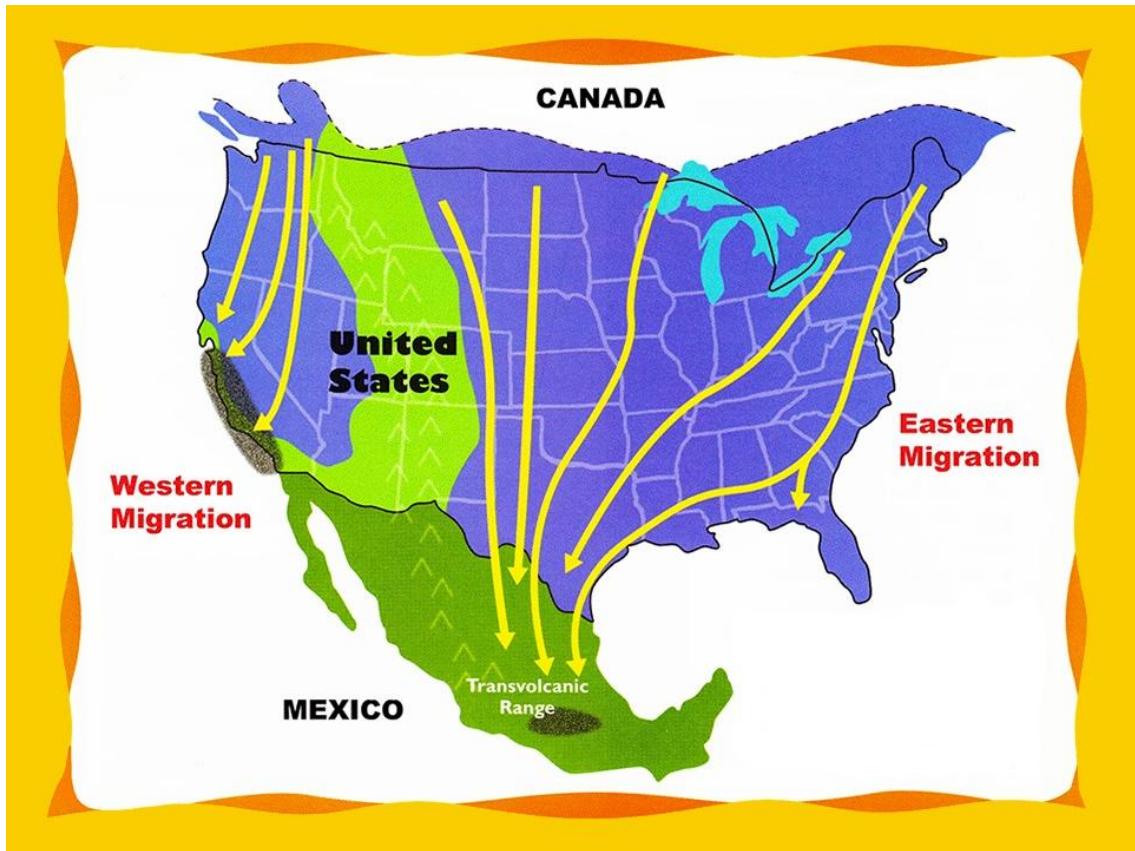
Station 14



Questions 107-114 are about migration.

107. Define Philopatry. (1)
- a. The tendency of an animal to remain in or return to the area of its birth (1)
108. Name the four main North American Flyways. (2)
- a. Pacific, Central, Mississippi, Atlantic (0.5 each, max of 2)
109. A group of birds stay in a pack and all migrate to the same wintering location. Would these birds have high or low migratory connectivity? (1)
- a. High migratory connectivity (1)

- b. Low migratory connectivity
110. Are birds that have high or low migratory connectivity more vulnerable to genetic drift? Why? (2)
- High (1), there is a smaller gene pool in populations with high migratory connectivity since they tend to remain isolated (1)
111. What is the relationship between migratory and population connectivity? (1)
- Inverse (1)



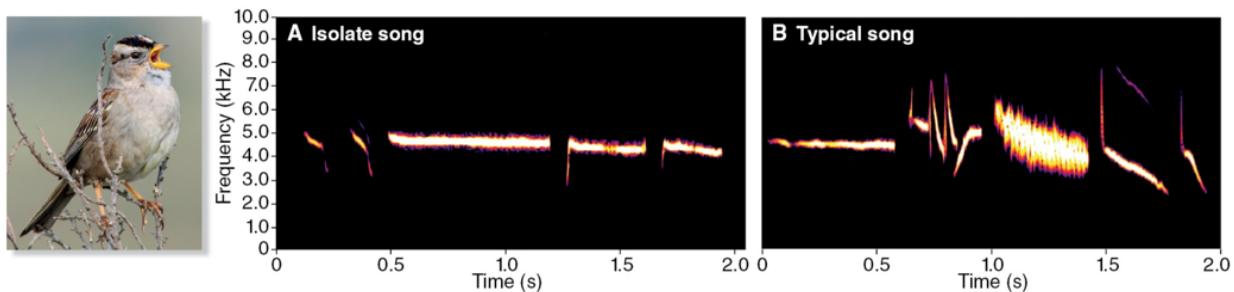
112. This is a map depicting the migration of a bird. They migrate twice a year, every year. Which of the following best describes their migration behavior? (1)
- Nomadic
 - Facultative Migrants
 - Residents
 - Obligate Migrants (1)
113. An American Golden-Plover is trapped in a cage in Northern Canada during October. Describe its behavior during the nighttime. (2)
- Restlessly jumping (1) towards the south (1) where it wants to migrate due to Zugunruhe
114. Give two reasons why some birds migrate in V-shaped flocks (2)
- Aerodynamic benefits, maintains family structure and relationships, enables the flock to communicate effectively, etc. (1 each, max of 2)

Station 15



Questions 115-122 are about vocalizations.

115. Which bird organ is highlighted here? What is its function? (2)
 - a. Syrinx (1), producing vocalizations (1)
116. Select all of the following that defines the difference between a song and a call. (2)
 - a. Songs are typically more complex than calls (1)
 - b. Songs are typically longer than calls (1)
 - c. Songs are always used less frequently than calls
 - d. Songs are only used during breeding season



117. Ornithologists ran an experiment where they took a young male White-crowned Sparrow and isolated it from adult males at birth. The spectrogram on the left depicts that bird's song, while the one on the right is a typical song. What does the Spectrogram show? (1)
- The isolated bird had an abnormal song (1)
118. What can ornithologists discern from this data about the development of bird songs? (1)
- Birds learn songs from hearing other males sing (1)
119. What is the term for the stage in a bird's life where they are best equipped to learn a song? (1)
- Sensitive/critical period (1)
120. T/F: Much like human speech, birds have dialects that differ by geographic region.
- True (1)
121. Ornithologists say bird songs are used to "repel and attract". Describe what this means. (2)
- The main two uses of bird songs are to repel rival males (1) and attract potential female mates (1)
122. It is not fully understood why some birds mimic others, but there are two main theories. State both of them. (2)
- One theory is that birds mimic others to repel different species away from their territory (1). Another theory is that it is used to attract and impress mates (1): males with more songs are deemed of higher quality
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Thank you for taking this test!

If you would like to ask any questions directly or just talk with us, you can add our discord
AvianTrumpet#3434 and scispork#9934